



Cellular Biotechnology Cryodewar (CBC)



Engineering Description

The CBC is an aluminum passive freezer used to maintain cryopreserved cells at cryogenic temperatures prior to experiment initiation. It employs gaseous nitrogen as the cryogen, has no controls, and requires no power to operate. It consists of a sample storage area surrounded by a superinsulated vacuum jacket for thermal insulation and an inner lining layer of proprietary cryoabsorbent material, which absorbs liquid nitrogen. The CBC's outer dimensions are approximately 462 mm in height and 229 mm in diameter. Its internal storage space is cylindrical, approximately 257 mm in height and 75 mm in diameter. As heat is transferred into the storage space, liquid nitrogen vaporizes keeping the storage space at approximately minus 190 degrees Celsius.

Flight History

Past

Aug 2001 STS-105/7A.1
Dec 2001 STS-108/UF-1

Future